

ABSTRACT

An air sweeping apparatus having a head assembly, a debris conveyer and a receptacle. The head assembly includes a front skirt which is selectively positionable away from a surface to be cleaned to enable debris of different densities and sizes to be collected. After the front skirting of the head assembly is moved past debris, the debris becomes entrained within a flow of air formed by a line of pressurized air as it traverses the surface and the interior surface of the main chamber of the head assembly. Preferably the air flow in the head assembly is skewed with respect to the direction of travel to urge the entrained debris towards an output end of the main chamber. When debris reaches the output end of the main chamber it is transported to a debris receptacle by a low pressure conduit which discharges entrained debris into a first hopper or bin. As the debris enters the first hopper, the heavier material settles and lighter, entrained material is directed through a filter element and onto a second hopper or bin. The second hopper includes a separator which is used to remove light particulate matter. After emerging from the separator, the air stream enters an air handling device (typically a motorized fan surrounded by a shroud) where it is pressurized and directed to the input portion of the head assembly. A portion of this high pressure air flow is directed back towards a third hopper or bin in the receptacle where it is passed through a filter to remove fine particulate matter and exhausted.